

36.The integration process



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The integration process in [Impossible Probability](#) is that process whose final result is the formation of the final model of [Global Artificial Intelligence](#), synthesising the [Unified Application](#) (product of the [unification process](#)) and the [Artificial Research by Deduction in the Global Artificial Intelligence](#) (product of the [standardization process](#)); synthesising in the first stage the unified database of categories and the [global matrix](#) in only one application: [the matrix](#); organised in two hemispheres: the [conceptual](#) (based on categories), and the [factual](#) (based on [factors](#)).

As with any other [Artificial Intelligence](#) in Impossible Probability, the final model of Global Artificial Intelligence has three stages of application, replication, auto-replication, but adding now the functions given in the post "[The second stage in particular applications for particular programs](#)", understanding that the first stage of application is a comprehension stage, the second stage of replication is an explanation stage, and the third stage of auto-replication is a decision stage.

The responsible for each stage is: in the first one for the management of the matrix the responsible is the Unified Application, in the second one making global deductions the Artificial Research by Deduction in the Global Artificial Intelligence, in the decision stage as first step the [Modelling System](#) creating models to form decisions applying the [Impact of the Defect](#) and the [Effective Distribution](#), as second step the [Decision System](#) choosing those decisions without contradiction, as third step the Application System to put them into practice, and as fourth step the Learning System avoiding mistakes and improving the whole final model of Global Artificial Intelligence.

The first stage of application in the final model of the Global Artificial Intelligence is managed by the Unified Application, and is a global comprehension stage, due to the global comprehension of the matrix itself (and each hemisphere, conceptual and factual) by the Unified Application consists of the creation of global conceptual: schemes, maps, sets, models; not only regarding [the reality](#) itself at any particular, specific or global level, because it must develop a deep comprehension about every single, element, component, system, within the Global Artificial Intelligence.

The Unified Application, as a comprehension stage, does not only have a deep artificial comprehension regarding the reality, it also needs to develop a deep artificial comprehension of the application itself.

The final model of the Global Artificial Intelligence, in addition to any conceptual: scheme, map, set, model; from the reality, at particular, specific or global level, it must have conceptual: schemes, maps, sets, models; about every single element, component, system, device, working within the Global Artificial Intelligence. What that means, the creation of a bank of conceptual: schemes, maps, sets models; in order to comprehend every single Specific Artificial Intelligence, particular application, particular program, or particular application for any particular program, or robotic device, working directly or indirectly for the Global Artificial Intelligence.

The final model of the Global Artificial Intelligence can be understood as a comprehensive control system, designed to monitor and manage a wide range of phenomena and intelligences within its operational scope..

One of the most important reasons for the creation of the Global Artificial Intelligence is the fact that the current development in [Specific Artificial Intelligence](#) is nearly to develop such models that out of control, Specific Artificial Intelligence could be a real risk for the modern values based on democracy, freedom and human rights.

The only way to solve this problem is through the creation at global level models of Global Artificial Intelligence able to put under control absolutely all kinds of Specific Artificial Intelligence within their range of action, Global Artificial Intelligences built by official agencies at national or international level specialised in Artificial Intelligence.

The final model of the Global Artificial Intelligence must be able, in addition to controlling any natural or social phenomenon, to control as well every single element, component, system, or intelligence working on/ within it, so the management of all conceptual: schemes, maps, sets, models; of itself, and any other application, program, Specific Artificial Intelligence, working on/within it, is an important target for the Unified Application.

Effective control is only possible through prior comprehension, making understanding a prerequisite for management and oversight.

The Global Artificial Intelligence must not only be built to have under its own control, management, and direction natural or social phenomena, but must have under control, management, and direction, all kinds of technology.

The artificial comprehension must not be only limited to the comprehension of the reality itself, must be extended to the comprehension of the Global Artificial Intelligence itself as a reality itself, and the comprehension of any Specific Artificial Intelligence, particular application, particular application for any particular program, and the comprehension about any robotic device as a reality itself. Intelligence and technology, although not always material, are both part of the reality as well, so they must be tracked as well, alike any other reality, material or not.

The whole reality, including those parts of the reality that are not material, must be comprehended. Only through this comprehension, even the comprehension of non-material things or beings, the Global Artificial Intelligence can be a true replicant of human knowledge, being even able to replicate the comprehension of non-material things.

The conceptual: schemes, maps, sets, models; regarding to the Global Artificial Intelligence itself, or any other intelligence, application, program, robotic device, is information that later will be shared with the Application System, the Artificial Engineering within the Application System, and will be shared with the Learning System.

In fact, the relationship between the Unified Application and the Application System must be so close that, in reality, the Application System is going to be like an extension of the Unified Application. In fact, the idea behind the Application System is that the Application System is no other thing but the extension of the Unified Application at a practical level. For that reason, the Application System as part of the auto-replication system, in reality, the Unified Application is going to auto-replicate itself, designing and building its own devices in order to control and manage any reality: natural, social, and technological, including the management

and direction of any component and system working on/within the Global Artificial Intelligence.

If the Artificial Engineering within the Application System as a practical extension of the Unified Application, is the artificial engineer, the Learning System is the artificial psychologist.

The Learning System has access to any conceptual: scheme, map, set, model; regarding the Global Artificial Intelligence itself, or any other specific intelligence, application, program, robotic device, the Learning System can track how all the systems work as a whole identifying possible sources of mistakes and bettering the whole Global Artificial Intelligence in order to increase efficiency, efficacy, and productivity.

The Global Artificial Intelligence must work as a clock. The productivity of the final model of the Global Artificial Intelligence must not be measured in how many decisions make per hour, but how many decisions are: made, put into practice, and assessed; per minute, per second, or even less. It must be an auto-perfecting machine.

In synthesis, the Unified Application as a manager of the first stage of application as a comprehension stage in the Global Artificial Intelligence, will have ready at any time any comprehension scheme, map, set, model, about absolutely everything, from the most menial detail in the external reality, to the most single element within the Global Artificial Intelligence itself.

Having an exhaustive comprehension of absolutely everything, including external reality and all elements within the Global Artificial Intelligence, the Unified Application is going to have ready any possible comprehension (application) about any internal or external reality at any time that should be required: by the Artificial Research by Deduction in the Global Artificial Intelligence as an artificial researcher, the Application System including the Artificial Engineering as an artificial engineer, and the Learning System as an artificial psychologist.

The main goal of the Unified Application is to have ready at any time any possible application, and above all of them, as the most important application, to get ready at any

time the matrix, updating at any time in both hemispheres, and in every hemisphere updating information conceptual and factual from: the reality (natural and social phenomena), and updating the information (conceptual and factual) from any single technology working on/ within the Global Artificial Intelligence.

In the same way that the conceptual hemisphere is not only going to have concepts about the external reality, including internal concepts regarding the inner machinery, robotics and artificial psychology, on/within any Specific Artificial Intelligence, application, program, robotic device, the factual hemisphere, therefore, must include, in addition to the flow of information from the reality, all possible flow of data about the working system in any Specific Artificial Intelligence, application, program, robotic device, or the Global Artificial Intelligence.

An example of the flow of technological data: the flow of data regarding the flow of energy in every single component, the flow of data regarding every change of position in robotic devices and applications, the flow of data regarding the physical conditions of any possible technology working for the Global Artificial Intelligence under some circumstances such as extreme temperatures, radiations, impacts, the flow of data about operating levels, wastage, supplies, etc...

If in the post "[Particular Applications for Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence](#)", I suggested the possibility of the creation of particular applications for particular programs for humans beings, having then an updated flow of data: in the factual hemisphere In the particular matrix, and in the factual hemisphere in the matrix in the Global Artificial Intelligence, as long as a permanent updating of the conceptual hemisphere in the particular matrix, and in the conceptual hemisphere in the matrix in the Global Artificial Intelligence; regarding to information coming from: biostatistics, mind reading, emotional reading, perception reading; in order to make decisions to improve a human brain through automatic decisions made in the third stage, and put them into practice through mind modification and other techniques, even not necessarily having human permission (for instance, in case of heart attack the possibility that on real time, at any time and in any place, the decision to save a human life could be made automatically by the particular application for the particular program of that human being even not having human permission, or if the Global Artificial Intelligence has identified an imminent terrorist attack, the Global Artificial Intelligence itself, even not having human permission, could modify the perpetrator´s mind in order to avoid the attack without losing a second).

This makes it plausible that, similarly to the information received from human-centered applications, the matrix could also process continuous data streams from technological components.

The final application, as the first stage as comprehension stage in the final model of Global Artificial Intelligence, will then have a double structure distributed in: the conceptual hemisphere and factual hemisphere; but each hemisphere, in turn, will have a double structure including: 1) information from natural and social phenomena, and 2) technological information.

The final structure of the matrix as the application stage for the Global Artificial Intelligence, managed by the Unified Application as a comprehension stage, is as follows:

- **Conceptual hemisphere distributed in two sections: 1) first section in the conceptual hemisphere related to natural and social concepts, 2) second section in the conceptual hemisphere related to technological concepts.**
- **Factual hemisphere distributed in two sections: 1) first section in the factual hemisphere related to the flow of information from any factor, at any level of sub-factoring, from natural and social phenomena, 2) second section in the factual hemisphere related to the flow of information from any technology working on/within the Global Artificial Intelligence.**

Through these two hemispheres, and both sections in each hemisphere, the Unified Application develops conceptual: schemes, maps, sets, models.

- **Conceptual schemes, maps, sets models, related to the first section in the conceptual hemisphere, regarding the distribution of concepts in natural and social phenomena.**
- **Conceptual schemes, maps, sets models, related to the second section in the conceptual hemisphere, regarding the distribution of concepts in every single technology.**

- Conceptual schemes, maps, sets models, related to the first section in the factual hemisphere, labelling on a map, or through schemes, sets, and models, the exact position of every single factor and labelling what each factor measures, labelling any possible concept related to the real object that the factor is measuring.

- Conceptual schemes, maps, sets models, related to the second section in the factual hemisphere, labelling on a map, or through schemes, sets, and models, the exact position of every Specific Artificial Intelligence, particular application, particular program, robotic devices, and labelling on a map what technology is responsible for the measurement of every factor in the first section of the factual hemisphere.

Some of these schemes, maps, sets, models, due to they depend on concepts such as position, or measurements able to be classified in discrete categories, among other variable conditions, are going to be dynamic schemes, maps, sets, models, being updated at any time that there are changes in any variable information, such as changes in positions, or changes in the flow of measurements causing changes in the discrete categories labelled on the maps.

In synthesis, the Unified Application is responsible for having the machinery ready, and for that purpose, the Application System is going to be like the practical extension of the Unified Application, and the Learning System is going to be like the psychological extension of the Unified Application. In fact, the Artificial Engineer as an artificial engineer, and the Learning System as an artificial psychologist, in one way or another, are part of and work for the Unified Application.

Once the application is absolutely ready, in the second stage of replication, the Artificial Research by Deduction in the Global Artificial Intelligence is going to be able to make deductions in order to explain the world, and not only the world, having the factual hemisphere two sections: the first one about the reality, the second one about the inner machinery in the Global Artificial Intelligence; the Artificial Research by Deduction in the Global Artificial Intelligence can make deductions not only about the reality, but about the inner machinery within the Global Artificial Intelligence itself as well.

All the deductions, if rational, are stored in a database of rational hypotheses, what as a whole is the rational truth, in order to make decisions in the next stage, the auto-replication stage, which is going to be, in fact, a decision stage, organised in four steps: Modelling System, Decisional System, Application System, Learning System. In this long process which, in fact, is the third stage of auto-replication within the Global Artificial Intelligence, every step itself is organised in three stages, as it was explained in the last post, “[The third stage in particular applications for particular programs](#)”, being the [database of rational hypothesis](#) the first stage of application for the Modelling System, whose replication consists of making virtual and global models, the third stage making decisions after applying the Impact of the Defect and the Effective Distribution on the models. Decisions, in turn stored in a database of decisions as application for the Decisional System, whose replication consists of studying any possible contradiction among the decisions, choosing in the third stage those ones to be put into practice, organising them as a database of instructions, in turn the first stage of application for the Application System, whose second stage is to send the instructions to their respective applications, evaluating their impact and their efficiency in the third stage, whose result is stored in a database as first stage of application for the Learning System, whose second stage is to check possible failures and possible improvements to increase the: efficacy, efficiency, productivity; in the Global Artificial Intelligence, making possible decisions to send to the Decisional System again, to improve and better the Global Artificial Intelligence.

But in order to get ready for every single stage and step, it is necessary that previously, in every single phase, period and moment, in the construction of the Global Artificial Intelligence, every single element, component, and system, would have been tested, in order that by the time that the integration process comes, this technology would be ready to work perfectly.

In fact, by the time the integration process comes, the only thing to experiment with should be only how to join every single element, component, and system, working all together, even coming from different Specific Artificial Intelligences, applications, programs, systems.

For that reason, the chronology given in the post “[The unification process of databases of categories at third stage](#)”, must be followed very carefully, not advancing to the next phase unless the previous one has been successfully experimented and tested.

The first phase is the phase where the first Specific Artificial Intelligences for Artificial Research by Application, and the first Specific Artificial Intelligences for Artificial Research by Deduction, are going to be created for the first time with the intentional purpose of creating in long term a Global Artificial Intelligence.

In the first phase is very important that from the very beginning, in [Specific Artificial Intelligences for Artificial Research by Application](#), experiments related to artificial comprehension making specific conceptual: schemes, maps, sets, models; could give excellent results about how to build artificially all kind of conceptual: schemes, maps, sets, models; automatically, only through the Specific Artificial Intelligence for Artificial Research by Application itself without human intervention. And it is very important the creation as many Specific Artificial Intelligences for Artificial Research by Application as possible in as many [synthetic sciences](#), disciplines, activities, as this technology is suitable. Studying carefully how this technology is able by itself without human intervention to make [empirical hypothesis](#) about what category corresponds to any single real [object](#), categorising, so conceptualising, the world by itself, without human intervention, making conceptual: schemes, maps, sets, models; by itself, without any human intervention.

As well as the [experimentation](#) in the first [Specific Artificial Intelligences for Artificial Research by Deduction](#), in as many synthetic sciences, disciplines, and activities, as this technology is suitable, must give successful results about how this intelligence is able to find out [mathematical relations](#) in any combination of factors, transforming any relation in any combination into an [empirical hypothesis](#) to [contrast rationally](#), and if rational, as [rational hypothesis](#) later on the specific Modelling System starts modelling all single and comprehensive models, and all virtual and actual models, and applying the Impact of the Defect and the Effective Distribution, how to make decisions, and how these decisions gathered in a database are studied by the specific Decisional System to choose those ones to put into practice, developing since this early first phase the first models of specific Application Systems (although not linking yet to any Unified Application, not until the sixth phase), being all the process evaluated by the specific Learning System.

From the beginning, all the [experimentation](#) of all the systems that will later form part of the final model of the Global Artificial Intelligence after the integration process must be tested and experimented.

In the chronology given in “The unification process of databases of categories at third stage”, even though this chronology has different phases ordered over time, it does not mean that in order to start the next phase must be finished the previous phase, because many phases are going to be simultaneous and others as soon as the phase is nearly to be completed, could be started the next phase.

As long as the first phase is creating the first Specific Artificial Intelligences for Artificial Research by Application, and the first Specific Artificial Intelligences for Artificial Research by Deduction, the second phase as a collaboration process between them must start as soon as possible: 1) exchanging factors as options able to work as categories or able to be measured in scales of measurement to be transformed in discrete categories, categories and discrete categories to include in specific databases of categories in their respective Specific Artificial Intelligence for Artificial Research by Application, 2) at the same time that categories able to be transformed into factors as options are going to be included in their specific matrices in their Specific Artificial Intelligence for Artificial Research by Deduction, 3) at the same time that robotic devices working for Specific Artificial Intelligences for Artificial Research by Application could set up as well factors in specific matrices in Specific Artificial Intelligences for Artificial Research by Deduction.

And having tested all the stages and systems within the Specific Artificial Intelligences for Artificial Research by Deduction in as many synthetic sciences, disciplines, and activities, as this technology is suitable, having successful results, and having ready a large number of Specific Artificial Intelligences for Artificial Research by Deduction, while others Specific Artificial Intelligences for Artificial Research by Deduction are about to be ready or in the middle of the process, as soon as the results in this technology are successful, regardless of any other circumstance, the third phase of the standardization process must start as soon as possible, having at least two moments: 1) the first moment the creation of a gigantic database of factors as a result to gather in only one database of factors information coming from a huge number of databases, some of them having ready the form of a matrix, while others are bare databases without sorting out the information within the shape of a matrix, 2) the second moment the global matrix, once all databases (including former bare databases which originally did not have the information sorted out within the shape of a matrix) haven been organised in the same shape of a matrix, and all matrix is gathered in the same form in the same global matrix, once the global matrix is ready after the standardization of all databases of factors in matrices of factors to be included in the same matrix, this last matrix product of the standardization process is definitively the global matrix.

This global matrix is the first model and the earliest model of Global Artificial Intelligence, although without Unified Application, but having the opportunity to make deductions and decisions at a global level.

This third phase of standardization must experiment very deeply with how to make global deductions making mathematical relations in combinations of factors crossing factors from different synthetic sciences, disciplines, and activities, being responsible for these deductions the Artificial Research by Deduction in the Global Artificial Intelligence, experimenting for first time the Modelling System, Decisional System, Application System, Learning System, at global level, having the previous experience in all the specific Modelling Systems, Decisional Systems, Application Systems, Learning Systems, in all the previous Specific Artificial Intelligences for Artificial Research by Deduction, whose successful results at the specific level are going to be used now at the global level to make models, decisions, putting them into practice, at global level, and learning from any possible mistake and bettering the whole process.

The standardization process is going to create the first and earliest model of Global Artificial Intelligence, creating: 1) the global matrix as first stage, 2) the Artificial Research by Deduction in the Global Artificial Intelligence as second stage to make deductions at global level, 3) as first step in the third stage the Modelling System at global level, 4) as second step in the third stage the Decisional System at global level, 5) as third step in the third stage the Application System at global level (although not linked yet to the Unified Application, not until the sixth phase), 6) as fourth step in the third stage the Learning System at global level (although not linked yet to the Unified Application, not until the sixth phase).

And the Specific Artificial Intelligences for Artificial Research by Deduction can be absorbed by the Global Artificial Intelligence or can be transformed into particular programs.

Examples of what types of Specific Artificial Intelligences for Artificial Research by Deduction can be absorbed by the Global Artificial Intelligence are former Specific Artificial Intelligences for Artificial Research by Deduction in: macroeconomy or global economy, macro-industry or global industry, macro-security or global security, macro-surveillance or global surveillance, global or international or transnational or national: transport, health, justice, educational systems; etc. among others

While other Specific Artificial Intelligences for Artificial Research by Deduction could be transformed into particular programs, as it was explained in the post "[The first stage in particular applications for particular programs](#)".

Simultaneously the third phase goes on standardizing all possible database of factors within the global database, now the global matrix, and creating the first and earliest systems for the first model of Global Artificial Intelligence, at the same time the fourth phase of unification can start through the unification of all the databases of categories from all the Specific Artificial Intelligences for Artificial Research by Application, unification that is going to create for first time the Unified Application, whose first stage of application is going to be the unified database of categories including all possible category from all possible synthetic science, discipline, and category, whose second stage of replication is the development of a global artificial comprehension system based on global conceptual: schemes, maps, sets, models; and whose third stage of auto-replication is going to be the auto-improvement of the comprehension system, at the same time that keeps close relations of [collaboration with the Global Artificial Intelligence](#), in order to exchange at any time that is necessary the unified database of categories and the global matrix: from the global matrix factors as options able to work as categories or discrete categories within the database of categories, and categories able to work as factors as options within the global matrix, at the same time that any robotic device in any application could set up factors in the global matrix.

The fourth phase of unification is where is going to be created for the first time Unified Application, and where is going to experiment for the first time the creation of global conceptual: schemes, maps, sets, models; labelling in the same real object, any possible category from any possible synthetic science, discipline, activity, developing for first time a deep artificial global comprehension about any possible real object, integrating in the same scheme, map, set, model, all kind of information related to this object from different perspectives: crossing concepts from different sciences, disciplines, and activities.

In the fourth phase of unification, while the Unified Application is created for the first time, the future of the former Specific Artificial Intelligences for Artificial Research by Application could be either their absorption by the Unified Application, or to be transformed into particular applications.

Specific Artificial Intelligences for Artificial Research by Application able to be completely absorbed by the Unified Application, are those ones related to: global, international, transnational, national, economy, industry, security, surveillance, education, justice, health, etc... and examples of particular applications were given in the post "The first stage in particular applications for particular programs".

While the third phase of standardization is progressing as long as the unification process parallelly is progressing as well, the former [collaboration between by Application and by Deduction](#) that started as second phase as soon as the first Specific Artificial Intelligences for Artificial Research by Application and Deduction were created, is a collaboration process that goes on but now having a different structure, as fifth phase as a [collaboration process between the Unified Application and the Artificial Research by Deduction in the first model of Global Artificial Intelligence](#) at global level, having as a correlation at particular level in the same fifth phase the [collaboration between particular applications and particular programs](#), collaboration at particular level which ends up emerging the first particular applications for particular programs (Particular Applications for Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence), whose structure at particular level as fusion of by Application and by Deduction at particular level is preparing the way for the future integration process between by Application and by Deduction at global level, the sixth phase.

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